

# HERSCHEL-QUINCKE TUBE CONCEPT APPLIED TO ENGINE INLETS

HERSCHEL-QUINCKE TUBE

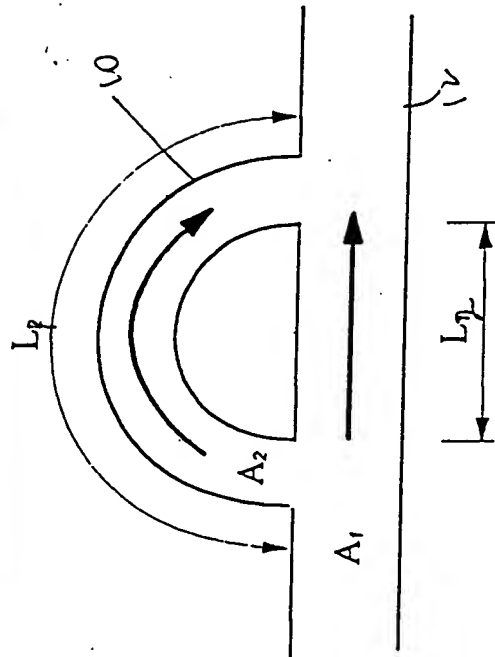


FIGURE 1

TRANSMISSION LOSS

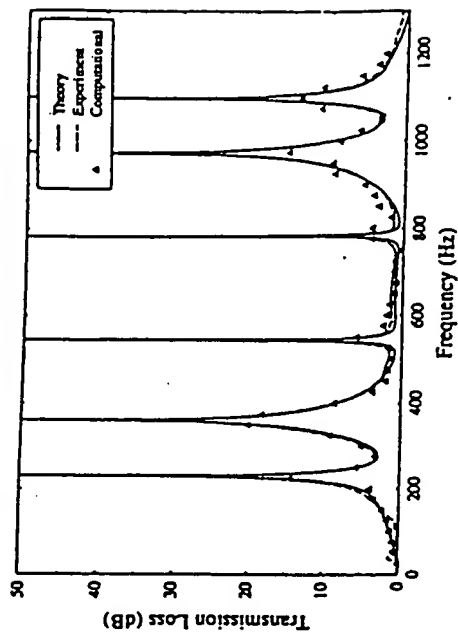


FIGURE 2

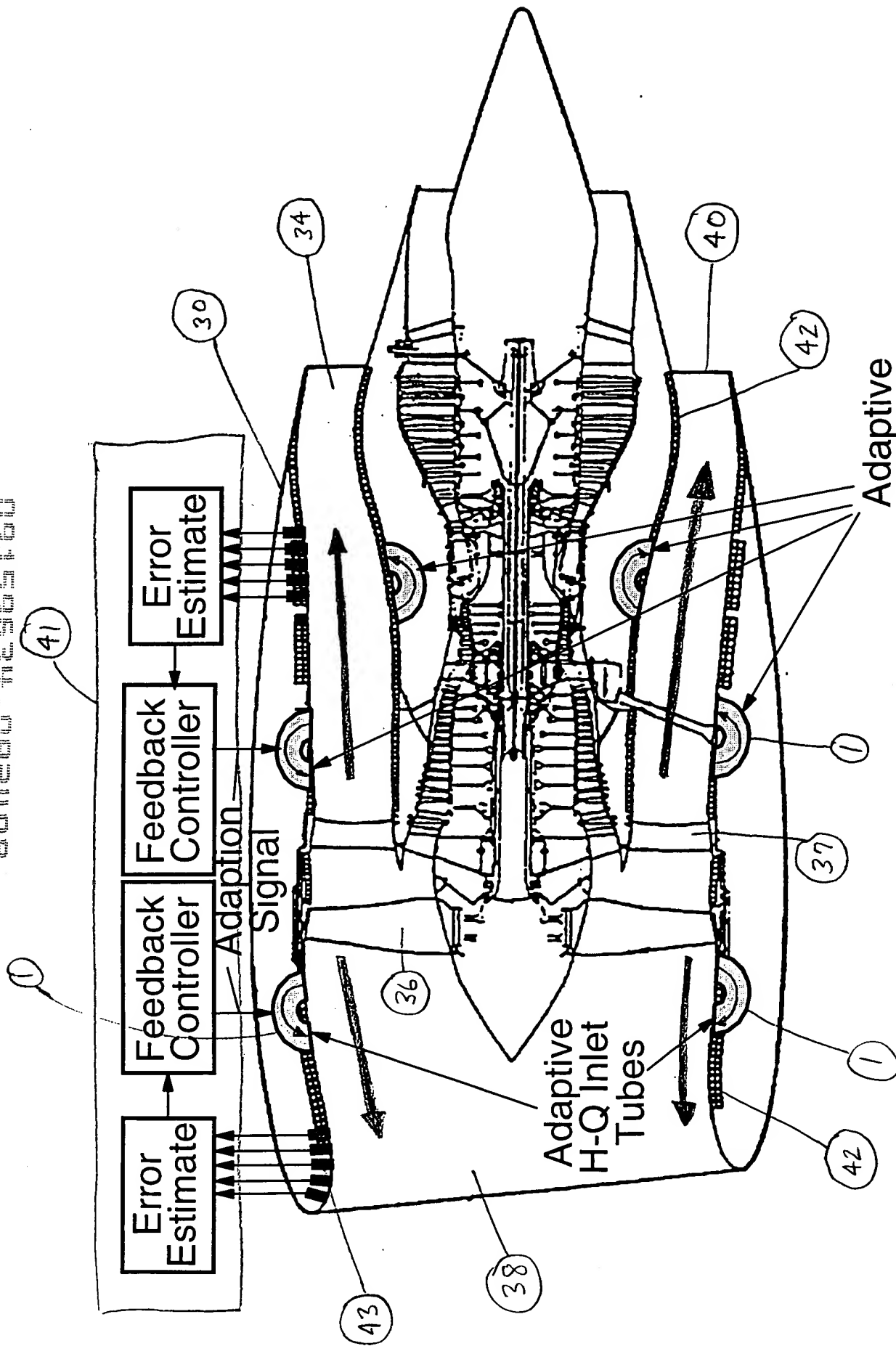
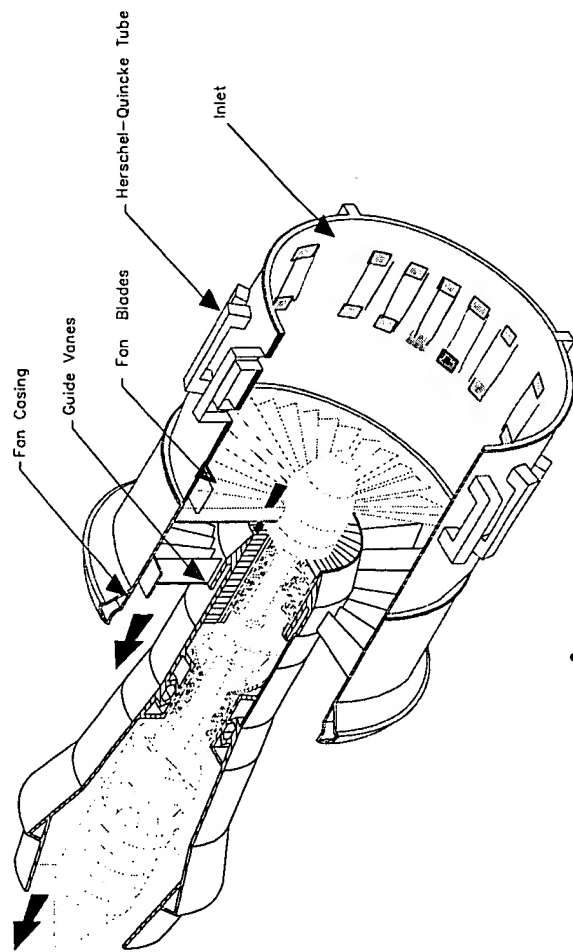
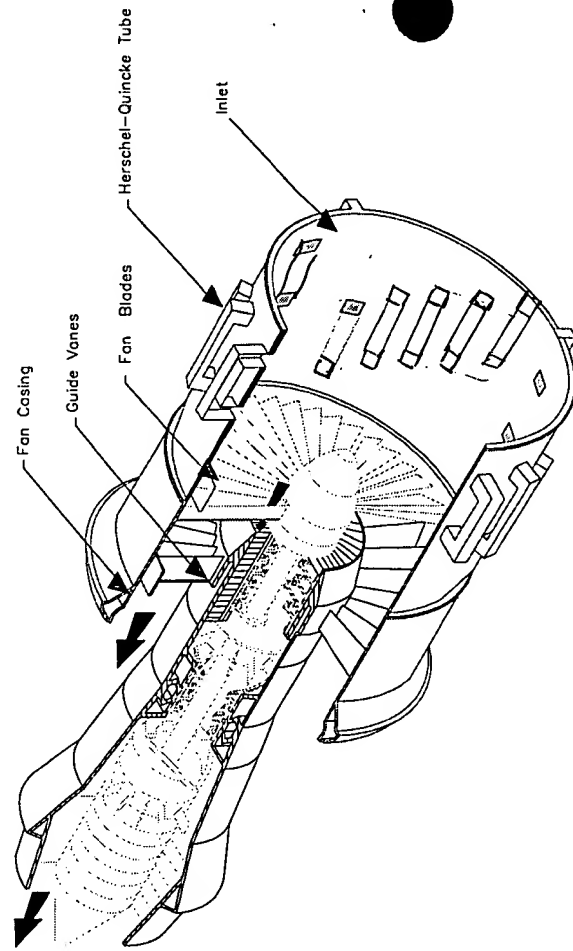


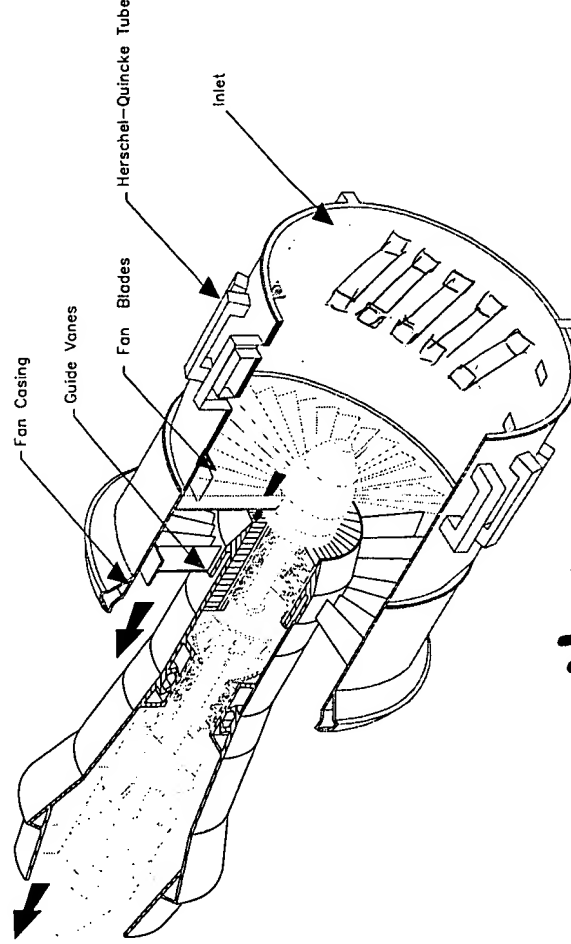
Figure 3



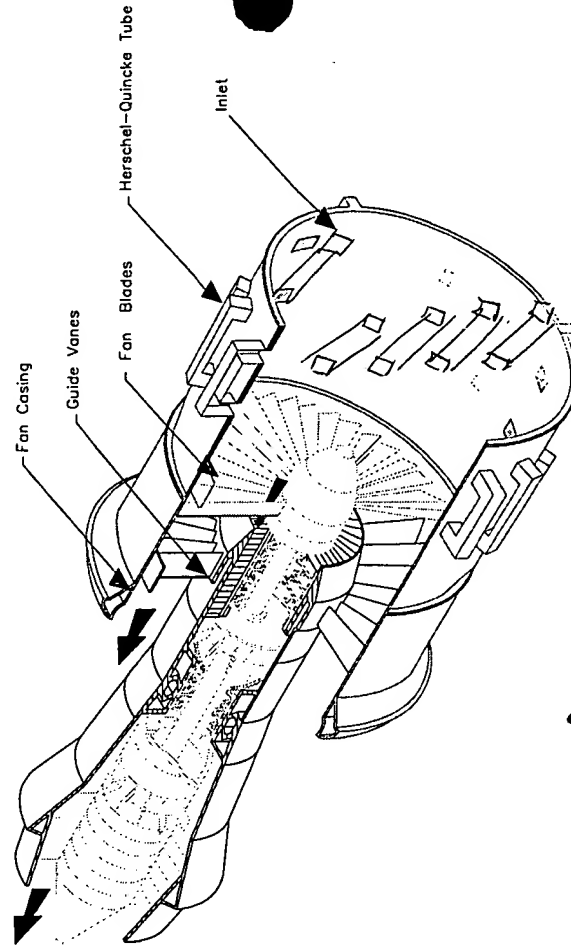
(a)



(b)



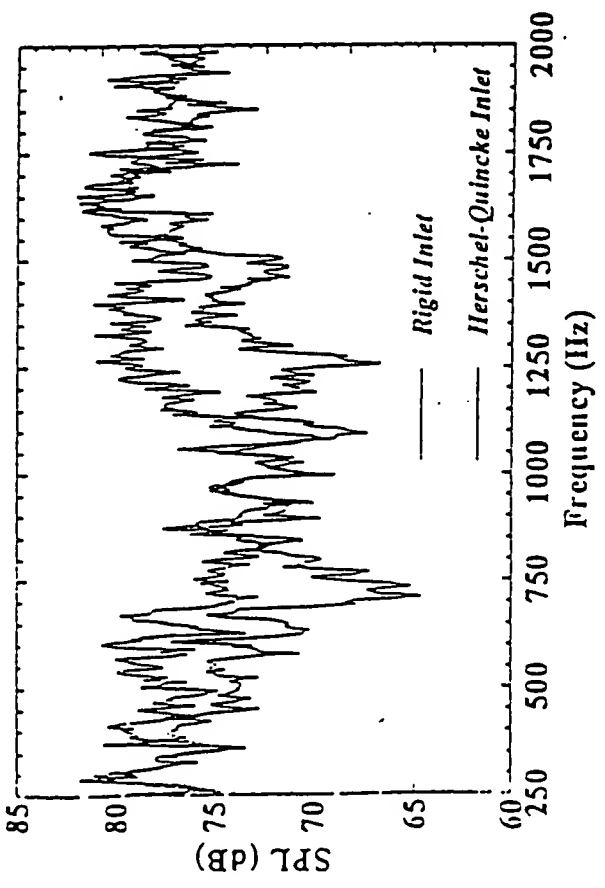
(c)



(d)

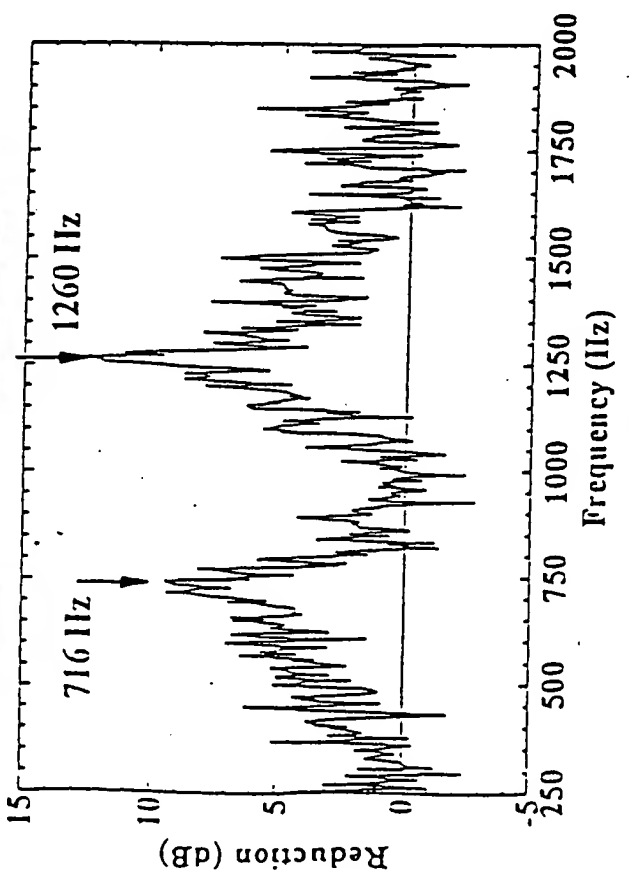
Figure 4

Spectrum Far-field Microphone at 50 deg.



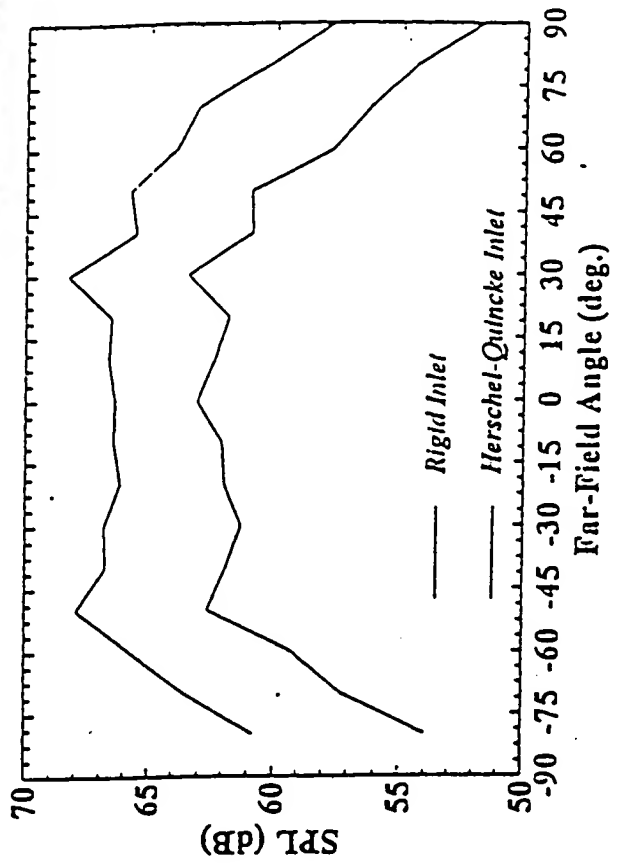
**FIG. 5**

Pressure Level Reduction



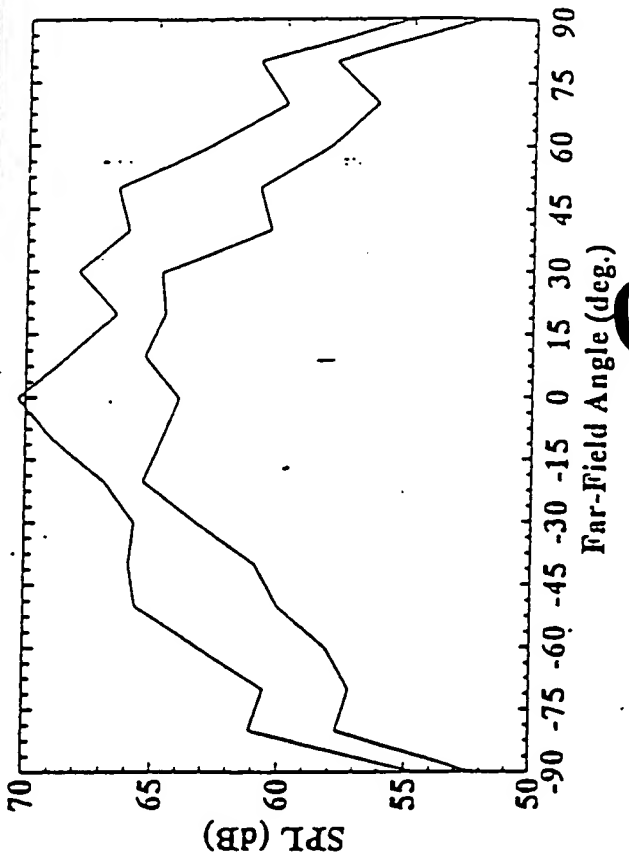
**FIG. 6**

Radiation Directivity - 630 Hz 1/3 Octave Band

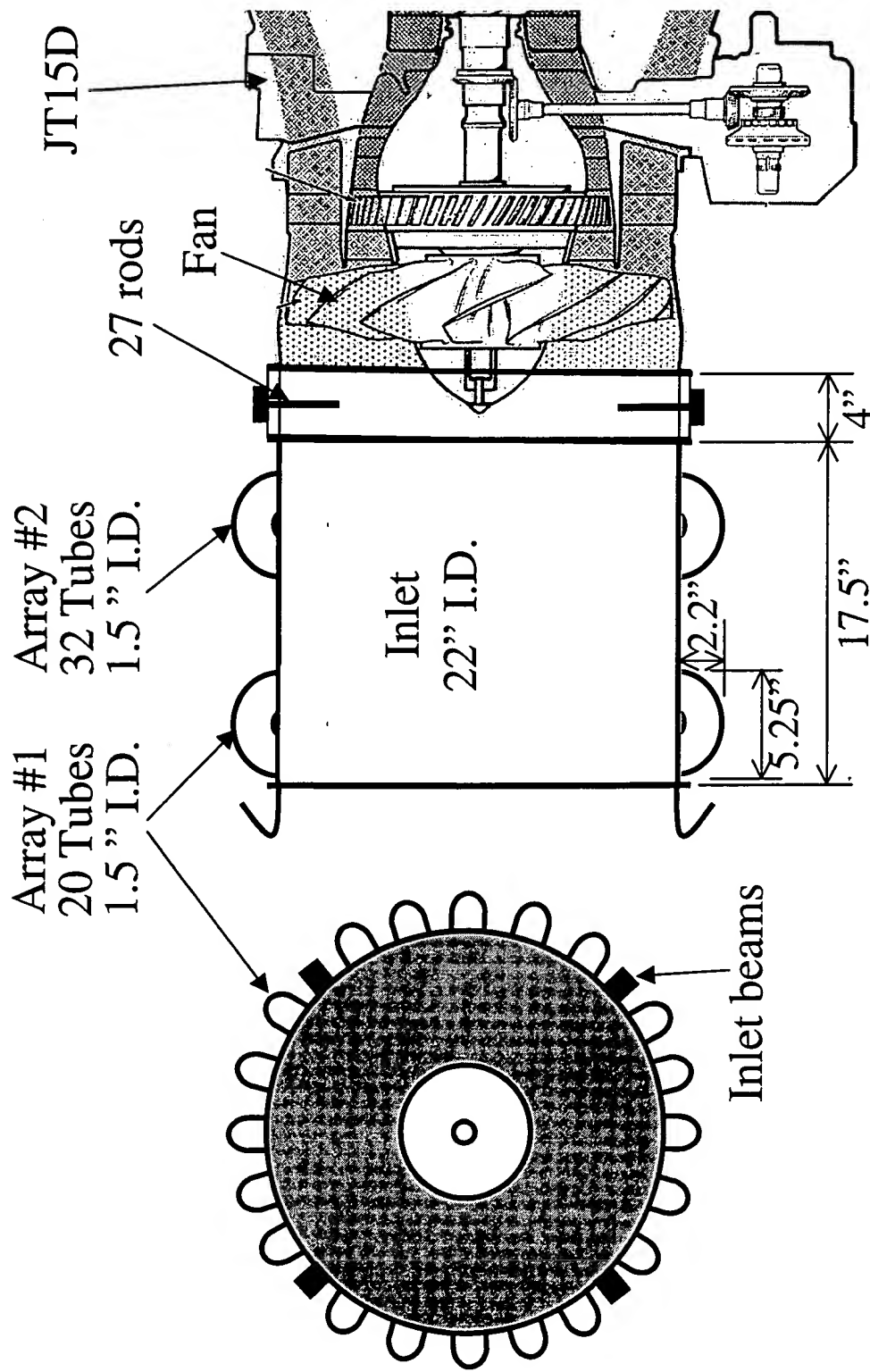


**FIG. 7**

Radiation Directivity - 1250 Hz 1/3 Octave Band



**FIG. 8**



With array #1: 4.6% of inlet surface area

covered by tubes

With both arrays: 12% of inlet surface area

covered by tubes

Scale ~ 1:7

Figure 9

Radiation Directivity BPF = 2340 Hz

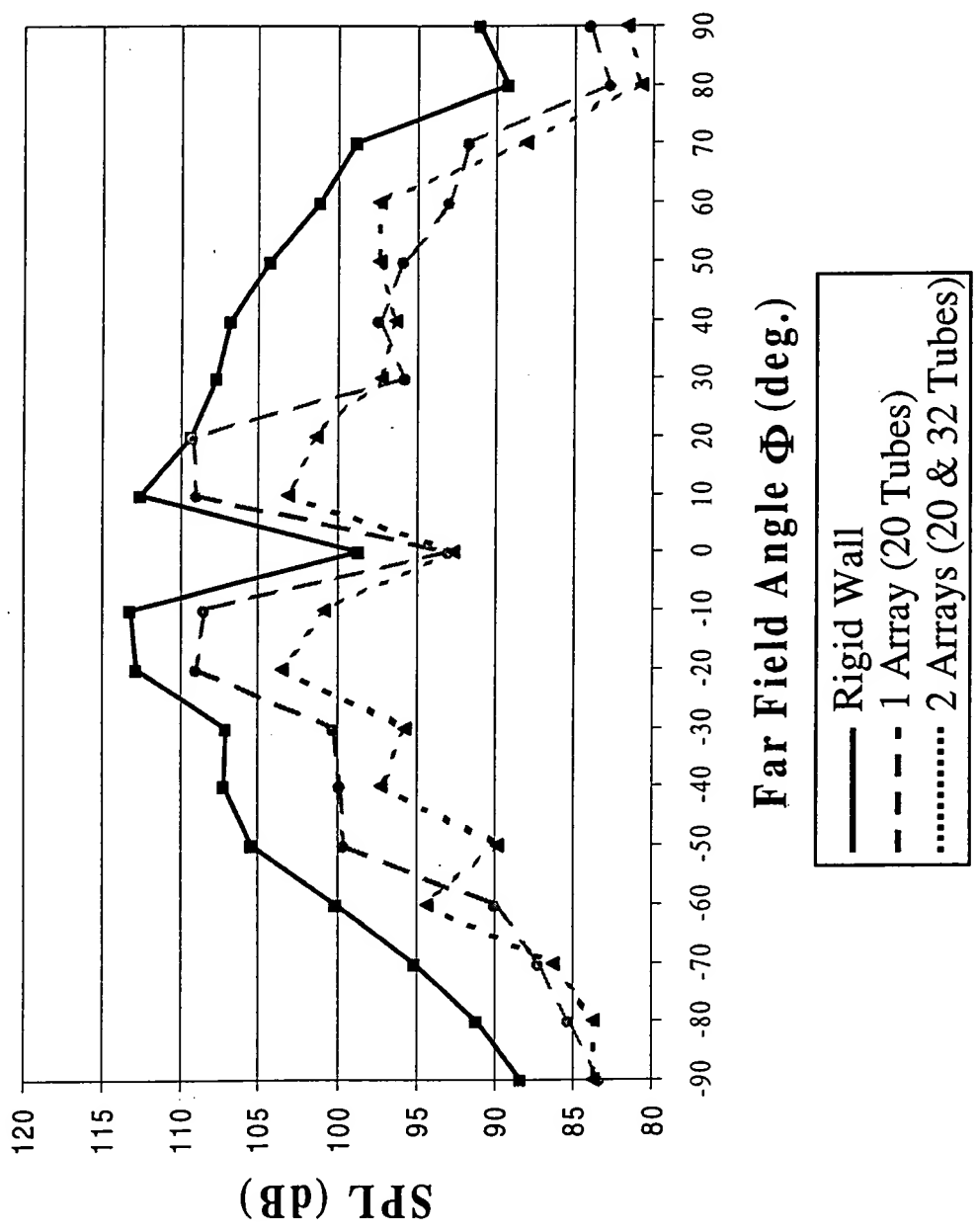


Figure 10

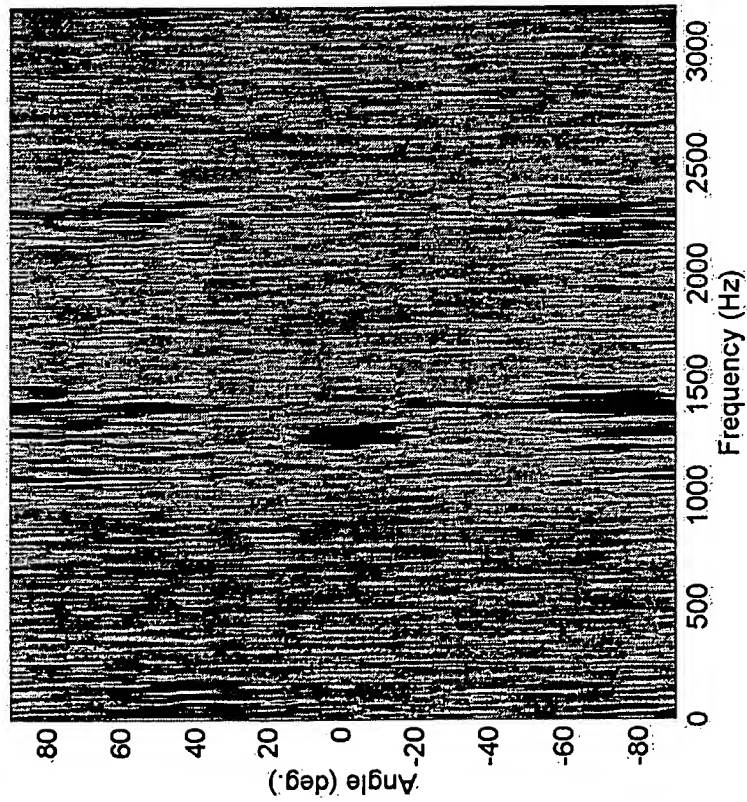


Figure 11

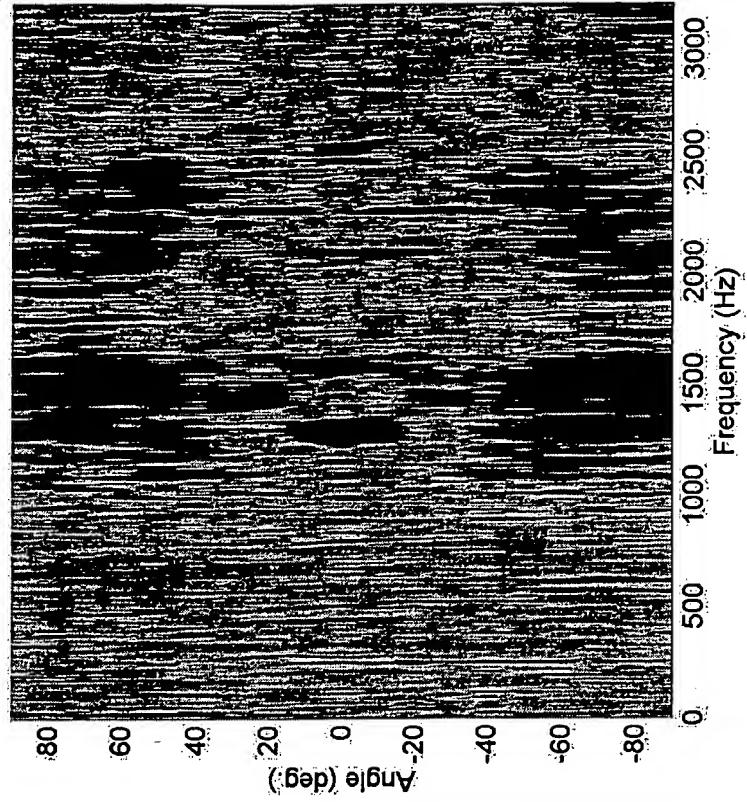
**SPL Reduction  
(dB)**

**1 Array (20 Tubes)**

**2 Arrays (20 & 32 Tubes)**



(a)



(b)

Figure 12



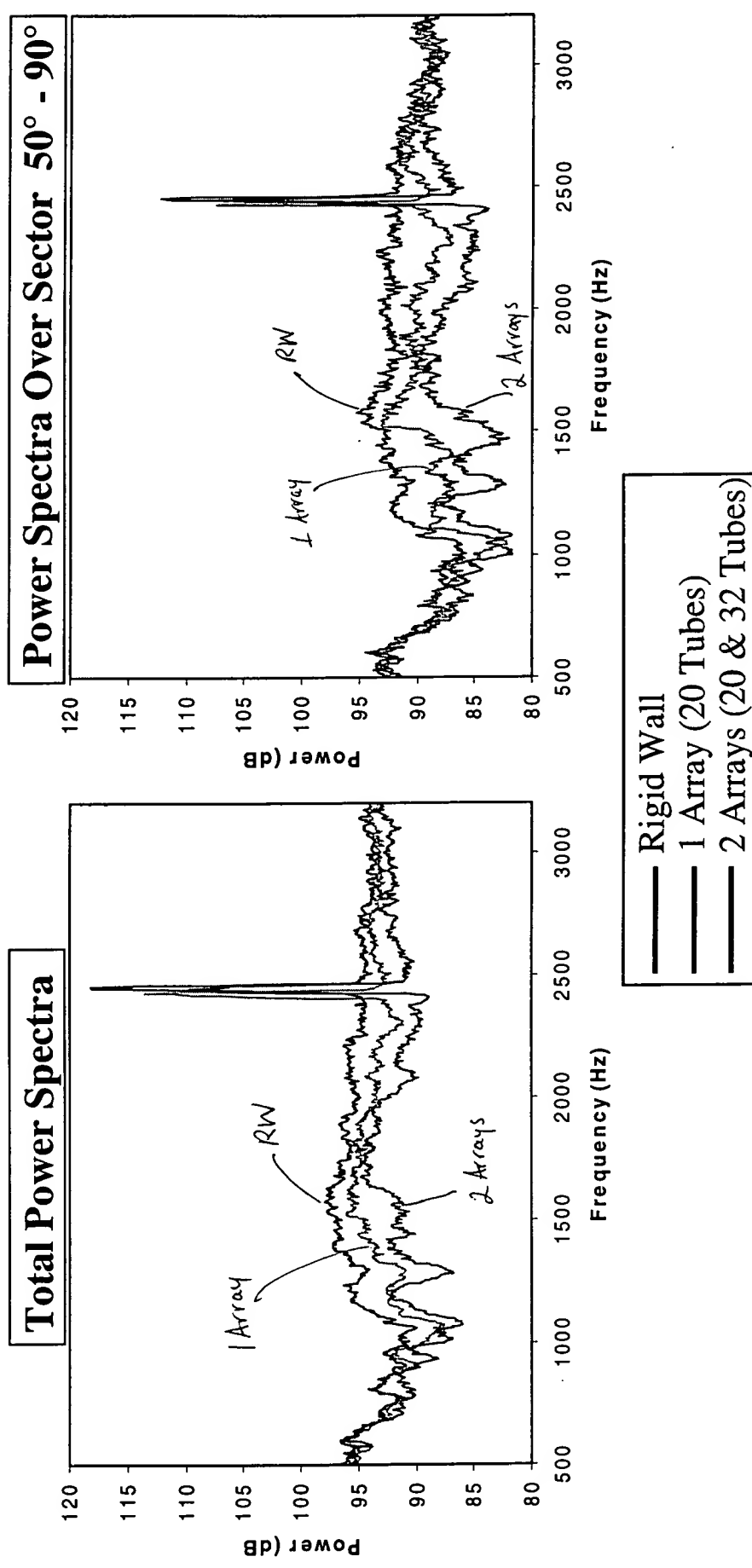


Figure 13